Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatmen●Caries
Inventor Name: Dennis Cvitkovitch et al.
Application No.: 09/833,017, Filing Date: April 10, 2001
Attorney Docket No. 1889-00401

Figure 2A.

[ATGAAAAAAACACTATCATTAAAAAATGACTTTAAAGAAATTAAGACTGATGAATTAGA
GATTATCATTGGCGGA(AGCGGAAGCCTATCAACATTTTTCCGGCTGTTTAACAGAAGTT
TTACACAAGCTTTGGGAAAA)]TAA

Figure 2B.

AGCGGAAGCCTATCAACATTTTTCCGGCTGTTTAACAGAAGTTTTACACAAGCTTTGGGA
AAA

Figure 2C.

[ATGAATGAAGCCTTAATGATACTTTCAAATGGTTTATTAACTTATCTAACCGT
TCTATTTCTCTTGTTTCTATTTTCTAAGGTAAGTAATGTCACTTTATCGAAAAA
GGAATTAACTCTTTTTTCGATAAGCAATTTTCTGATAATGATTGCTGTTACGA
TGGTGAACGTAAACCTGTTTTATCCTGCAGAGCCTCTTTATTTTATAGCTTTAT
CAATTTATCTTAATAGACAGAATAGTCTTTCTCTAAATATATTTTATGGTCTGC
TGCCTGTTGCCAGTTCTGACTTGTTAGGCGGGCAATCATATTCTTTATCTTGG
ATGGAACTCAAGGAATTGTAATGGGCAGTAGCATTATAACCACCTATATGAT
CGAGTTTGCAGGAATAGCGCTAAGTTACCTCTTTCTCAGTGTGTTCAATGTTG
ATATTGGTCGACTTAAAGATAGTTTGACCAAGATGAAGGTCAAAAAACGCTT
GATTCCAATGAATATTACTATGCTTCTATACTACCTTTTAATACAGGTATTGT
ATGTTATAGAGAGTTATAATGTGATACCGACTTTAAAATTTCGTAAATTTGTC
GTTATTGTCTATCTTATTTTATTTTTGATTCTGATCTCATTTTTAAGCCAATATA
CCAAACAAAAGGTTCAAAATGAGATAATGGCACAAAAGGAAGCTCAGATTC
GAAATATCACCCAGTATAGTCAGCAAATAGAATCTCTTTACAAGGATATTCG
AAGTTTCCGCCATGATTATCTGAATATTTTAACTAGCCTCAGATTAGGCATTG
AAAATAAAGATTTAGCTAGTATTGAAAAGATTTACCATCAAATCTTAGAAAA
AACAGGACATCAATTGCAGGATACCCGTTATAATATCGGCCATCTAGCTAAT
ATTCAAAACGATGCTGTCAAGGGTATCTTGTCAGCAAAAATCTTAGAAGCTC
AGAATAAAAAGATTGCTGTCAATGTAGAAGTCTCAAGTAAAATACAACTGCC
TGAGATGGAGTTGCTTGATTTCATTACCATACTTTCTATCTTGTGTGATAATGC
CATTGAGGCTGCTTTCGAATCATTAAATCCTGAAATTCAGTTAGCCTTTTTTA
AGAAAAATGGCAGTATAGTCTTTATCATTCAGAATTCCACCAAAGAAAAACA
AATAGATGTGAGTAAAATTTTTAAAGAAACTATTCCACTAAAGGCTCCAAT
CGCGGTATTGGTTTAGCAAAGGTGAATCATATTCTTGAACATTATCCCAAAAC
CAGTTTACAAACAAGCAATCATCATCATTTATTCAAGCAACTCCTAATAATAA
AA]TAG

Title: Signal Peptides, Nucleic Acid Molecules and Methods for
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Application No.: 09/833,017, Filing Date: April 10, 2001
Attorney Docket No. 1889-00401

Figure 2D.

[ATGATTTCTATTTTTTGTATTGGAAGATGATTTTTTTACAACAAGGACGTCTTGAAACCAC
CATTGCAGCTATCATGAAAGAAAAAAATTGGTCTTATAAAGAATTGACTATTTTTGGAAA
ACCACAACAACTTATTGACGCTATCCCTGAAAAGGGCAATCACCAGATTTTCTTTTTGGA
TATTGAAATCAAAAAAGAGGAAAAGAAAGGACTGGAAGTAGCCAATCAGATTAGACAGCA
TAATCCTAGTGCAGTTATTGTCTTTGTCACGACACATTCTGAGTTTATGCCCCTCACTTT
TCAGTATCAGGTATCTGCTTTGGATTTTATTGATAAATCTTTGAATCCTGAGGAGTTCTC
CCACCGCATTGAATCAGCGCTGTATTATGCTATGGAAAACAGCCAGAAGAATGGTCAATC
AGAGGAACTTTTTATTTTCCATTCATCTGAAACTCAGTTTCAGGTCCCTTTTGCTGAGAT
TCTGTATTTTGAAACATCTTCAACAGCCCATAAGCTCTGCCTTTATACTTATGATGAACG
GATTGAATTCTACGGCAGTATGACTGACATTGTTAAAATGGATAAGAGACTTTTTCAGTG
CCATCGCTCTTTTATTGTCAATCCTGCCAATATTACCCGTATTGATCGGAAAAAACGCTT
GGCCTATTTTCGAAATAATAAGTCTTGTCTTATTTCACGAACTAAGTTAACAAAACTGAG
AGCTGTGATTGCTGATCAAAGGAGAGCAAAA]TGA

Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatment ● Caries
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Attorney Docket No. 1889-00401

Figure 9A

Sequence Range: 1 to 2557

```
           10        20        30        40        50
ACATTATGTGTCCTAAGGAAAATATTACTTTTTCAAGAAAATCCATGATT
TGTAATACACAGGATTCCTTTTATAATGAAAAAGTTCTTTTAGGTACTAA
                          <K  K  L  F  I  W  S  K
                             <_____


           60        70        80        90       100
TTTTCATAAAAAATAGTATACTAATTATAATCAAAAAAAGGAGATATAAA
AAAAGTATTTTTTATCATATGATTAATATTAGTTTTTTTTCCTCTATATTT
   <K  M  F  F  L  I  S  I  I  I  L  F  L  L  Y  L
   <_____


          110       120       130       140       150
ATGAAAAAAACACTATCATTAAAAAATGACTTTAAAGAAATTAAGACTGA
TACTTTTTTTGTGATAGTAATTTTTTACTGAAATTTCTTTAATTCTGACT
   M  K  K  T  L  S  L  K  N  D  F  K  E  I  K  T  D>
   _____ORF RF[2] _____>
<I  F  F  V  S  D  N  F  F  S  K  L  S  I  L  V  S
<_____


          160       170       180       190       200
TGAATTAGAGATTATCATTGGCGGAAGCGGAAGCCTATCAACATTTTTCC
ACTTAATCTCTAATAGTAACCGCCTTCGCCTTCGGATAGTTGTAAAAAGG
     E  L  E  I  I  I  G  G  S  G  S  L  S  T  F  F>
           _____ORF RF[2] _____>
<S  N  S  I  I  M
<_____


          210       220       230       240       250
GGCTGTTTAACAGAAGTTTTACACAAGCTTTGGGAAAATAAGATAGGCTA
CCGACAAATTGTCTTCAAAATGTGTTCGAAACCCTTTTATTCTATCCGAT
   R  L  F  N  R  S  F  T  Q  A  L  G  K>
          _____ORF RF[2] _____>


          260       270       280       290       300
ACATTGGAATAAAACAAGGCTGGATTTATTATTCCAGCCTTTTTAAATGT
TGTAACCTTATTTTGTTCCGACCTAAATAATAAGGTCGGAAAAAATTTACA


          310       320       330       340       350
AAAATAAAAATACAGGGTTAAATAATCAAGTGTGCTGTCGTGGATGAGAA
TTTTATTTTTATGTCCCAATTTATTAGTTCACACGACAGCACCTACTCTT


          360       370       380       390       400
GATAAAACTATCTCTTAGAGAATAGGCCTCCTCTATTTTATTATTAGGAG
CTATTTTGATAGAGAATCTCTTATCCGGAGGAGATAAAATAATAATCCTC
                                    <K  I  I  L  L
                                    <____ORF RF[____


          410       420       430       440       450
TTGCTTGAATAAATGATGATGATTGCTTGTTTGTAAACTGGTTTTGGGAT
AACGAACTTATTTACTACTACTAACGAACAAACATTTGACCAAAACCCTA
<Q  K  F  L  H  H  H  N  S  T  Q  L  S  T  K  P  Y
```

Attorney Docket No. 1889-00401
App nts: Dennis Cvitkovitch et al.
App ation No.: 09/833,017, Filing Date: April 10, 2001
Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatment of Caries

Figure 9B

```
<_____ORF RF[4] C_____

         460       470       480       490       500
     AATGTTCAAGAATATGATTCACCTTTGCTAAACCAATACCGCGATTGGAG
     TTACAAGTTCTTATACTAAGTGGAAACGATTTGGTTATGGCGCTAACCTC
      <H   E   L   I   H   N   V   K   A   L   G   I   G   R   N   S
     <_____ORF RF[4] C_____

         510       520       530       540       550
     CCTTTAGTGGAATAGTTTTCTTTAAAAATTTTACTCACATCTATTTGTTT
     GGAAATCACCTTATCAAAAGAAATTTTTAAAATGAGTGTAGATAAACAAA
     <G   K   T   S   Y   N   E   K   F   I   K   S   V   D   I   Q   K
     <_____ORF RF[4] C_____

         560       570       580       590       600
     TTCTTTGGTGGAATTCTGAATGATAAAGACTATACTGCCATTTTTCTTAA
     AAGAAACCACCTTAAGACTTACTATTTCTGATATGACGGTAAAAAGAATT
     <E   K   T   S   N   Q   I   I   F   V   I   S   G   N   K   K   F
     <_____ORF RF[4] C_____

         610       620       630       640       650
     AAAAGGCTAACTGAATTTCAGGATTTAATGATTCGAAAGCAGCCTCAATG
     TTTTCCGATTGACTTAAAGTCCTAAATTACTAAGCTTTCGTCGGAGTTAC
                                                      M>
                                                   ____>
      <F   A   L   Q   I   E   P   N   L   S   E   F   A   A   E   I
     <_____ORF RF[4] C_____

         660       670       680       690       700
     GCATTATCACACAAGATAGAAAGTATGGTAATGAAATCAAGCAACTCCAT
     CGTAATAGTGTGTTCTATCTTTCATACCATTACTTTAGTTCGTTGAGGTA
      A   L   S   H   K   I   E   S   M   V   M   K   S   S   N   S   I>
     _____ORF RF[3] _____>
     <A   N   D   C   L   I   S   L   I   T   I   F   D   L   L   E   M
     <_____ORF RF[4] C_____

         710       720       730       740       750
     CTCAGGCAGTTGTATTTTACTTGAGACTTCTACATTGACAGCAATCTTTT
     GAGTCCGTCAACATAAAATGAACTCTGAAGATGTAACTGTCGTTAGAAAA
      S   G   S   C   I   L   L   E   T   S   T   L   T   A   I   F>
     _____ORF RF[3] _____>
     <E   P   L   Q   I   K   S   S   V   E   V   N   V   A   I   K   K
     <_____ORF RF[4] C_____

         760       770       780       790       800
     TATTCTGAGCTTCTAAGATTTTTGCTGACAAGATACCCTTGACAGCATCG
     ATAAGACTCGAAGATTCTAAAAACGACTGTTCTATGGGAACTGTCGTAGC
      L   F>
     _____>
      <N   Q   A   E   L   I   K   A   S   L   I   G   K   V   A   D
     <_____ORF RF[4] C_____

         810       820       830       840       850
     TTTTGAATATTAGCTAGATGGCCGATATTATAACGGGTATCCTGCAATTG
     AAAACTTATAATCGATCTACCGGCTATAATATTGCCCATAGGACGTTAAC
     <N   Q   I   N   A   L   H   G   I   N   Y   R   T   D   Q   L   Q
     <_____ORF RF[4] C_____
```

Attorney Docket No. 1889-00401
Applicants: Dennis Cvitkovitch et al.
Application No.: 09/833,017, Filing Date: April 10, 2001
Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatment of Caries

Figure 9C

```
          860       870       880       890       900
ATGTCCTGTTTTTTTCTAAGATTTGATGGTAAATCTTTTCAATACTAGCTA
TACAGGACAAAAAAGATTCTAAACTACCATTTAGAAAAGTTATGATCGAT
<H  G  T  K  E  L  I  Q  H  Y  I  K  E  I  S  A  L
<_____ORF RF[4] C_____


          910       920       930       940       950
AATCTTTATTTTCAATGCCTAATCTGAGGCTAGTTAAAATATTCAGATAA
TTAGAAATAAAAGTTACGGATTAGACTCCGATCAATTTTATAAGTCTATT
 <D  K  N  E  I  G  L  R  L  S  T  L  I  N  L  Y
<_____ORF RF[4] C_____


          960       970       980       990      1000
TCATGGCGGAAACTTCGAATATCCTTGTAAAGAGATTCTATTTGCTGACT
AGTACCGCCTTTGAAGCTTATAGGAACATTTCTCTAAGATAAACGACTGA
    M  A  E  T  S  N  I  L  V  K  R  F  Y  L  L  T>
                                                    >
<D  H  R  F  S  R  I  D  K  Y  L  S  E  I  Q  Q  S
<_____ORF RF[4] C_____


         1010      1020      1030      1040      1050
ATACTGGGTGATATTTCGAATCTGAGCTTCCTTTTGTGCCATTATCTCAT
TATGACCCACTATAAAGCTTAGACTCGAAGGAAAACACGGTAATAGAGTA
 I  L  G  D  I  S  N  L  S  F  L  L  C  H  Y  L  I>
                                                    >
<Y  Q  T  I  N  R  I  Q  A  E  K  Q  A  M  I  E  N
<_____ORF RF[4] C_____


         1060      1070      1080      1090      1100
TTTGAACCTTTTGTTTGGTATATTGGCTTAAAAATGAGATCAGAATCAAA
AAACTTGGAAAACAAACCATATAACCGAATTTTTACTCTAGTCTTAGTTT
    L  N  L  L  F  G  I·L  A>
                          >
   <Q  V  K  Q  K  T  Y  Q  S  L  F  S  I  L  I  L
<_____ORF RF[4] C_____


         1110      1120      1130      1140      1150
AATAAAATAAGATAGACAATAACGACAAATTTACGAAATTTTAAAGTCGG
TTATTTTATTCTATCTGTTATTGCTGTTTAAATGCTTTAAAATTTCAGCC
<F  L  I  L  Y  V  I  V  V  F  K  R  F  K  L  T  P
<_____ORF RF[4] C_____


         1160      1170      1180      1190      1200
TATCACATTATAACTCTCTATAACATACAATACCTGTATTAAAAGGTAGT
ATAGTGTAATATTGAGAGATATTGTATGTTATGGACATAATTTTCCATCA
<I  V  N  Y  S  E  I  V  Y  L  V  Q  I  L  L  Y  Y
<_____ORF RF[4] C_____


         1210      1220      1230      1240      1250
ATAGAAGCATAGTAATATTCATTGGAATCAAGCGTTTTTTGACCTTCATC
TATCTTCGTATCATTATAAGTAACCTTAGTTCGCAAAAAACTGGAAGTAG
    <L  L  M  T  I  N  M  P  I  L  R  K  K  V  K  M
<_____ORF RF[4] C_____


         1260      1270      1280      1290      1300
TTGGTCAAACTATCTTTAAGTCGACCAATATCAACATTGAACACACTGAG
```

Attorney Docket No. 1889-00401
Applicants: Dennis Cvitkovitch et al.
Application No.: 09/833,017, Filing Date: April 10, 2001
Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatment of Caries

Figure 9D

```
        AACCAGTTTGATAGAAATTCAGCTGGTTATAGTTGTAACTTGTGTGACTC
        <K  T  L  S  D  K  L  R  G  I  D  V  N  F  V  S  L
        <_____ORF RF[4] C_____


            1310      1320      1330      1340      1350
        AAAGAGGTAACTTAGCGCTATTCCTGCAAACTCGATCATATAGGTGGTTA
        TTTCTCCATTGAATCGCGATAAGGACGTTTGAGCTAGTATATCCACCAAT
        <F  L  Y  S  L  A  I  G  A  F  E  I  M  Y  T  T  I
        <_____ORF RF[4] C_____


            1360      1370      1380      1390      1400
        TAATGCTACTGCCCATTACAATTCCTTGAGTTCCATCCAAGATAAAGAAT
        ATTACGATGACGGGTAATGTTAAGGAACTCAAGGTAGGTTCTATTTCTTA
         <I  S  S  G  M  V  I  G  Q  T  G  D  L  I  F  F
        <_____ORF RF[4] C_____
                        <L  E  K  L  E  M  W  S  L  S  Y
                        <_____


            1410      1420      1430      1440      1450
        ATGATTGCCCGCCTAAACAAGTCAGAACTGGCAACAGGCAGCAGACCATA
        TACTAACGGGCGGATTTGTTCAGTCTTGACCGTTGTCCGTCGTCTGGTAT
        <I  I  A  R  R  F  L  D  S  S  A  V  P  L  L  G  Y
        <_____ORF RF[4] C_____
         <S  Q  G  G  L  C  T  L  V  P  L  L  C  C  V  M
        <_____


            1460      1470      1480      1490      1500
        AAATATATTTAGAGAAAGACTATTCTGTCTATTAAGATAAATTGATAAAG
        TTTATATAAATCTCTTTCTGATAAGACAGATAATTCTATTTAACTATTTC
        <F  I  N  L  S  L  S  N  Q  R  N  L  Y  I  S  L  A
        <_____ORF RF[4] C_____


            1510      1520      1530      1540      1550
        CTATAAAATAAAGAGGCTCTGCAGGATAAAACAGGTTTACGTTCACCATC
        GATATTTTATTTCTCCGAGACGTCCTATTTTGTCCAAATGCAAGTGGTAG
         <I  F  Y  L  P  E  A  P  Y  F  L  N  V  N  V  M
        <_____ORF RF[4] C_____


            1560      1570      1580      1590      1600
        GTAACAGCAATCATTATCAGAAAATTGCTTATCGAAAAAAGAGTTAATTC
        CATTGTCGTTAGTAATAGTCTTTTAACGAATAGCTTTTTTCTCAATTAAG
        <T  V  A  I  M  I  L  F  N  S  I  S  F  L  T  L  E
        <_____ORF RF[4] C_____


            1610      1620      1630      1640      1650
        CTTTTTCGATAAAGTGACATTACTTACCTTAGAAAATAGAAACAAGAGAA
        GAAAAAGCTATTTCACTGTAATGAATGGAATCTTTTATCTTTGTTCTCTT
        <K  K  S  L  T  V  N  S  V  K  S  F  L  F  L  L  F
        <_____ORF RF[4] C_____


            1660      1670      1680      1690      1700
        ATAGAACGGTTAGATAAGTTAATAAACCATTTGAAAGTATCATTAAGGCT
        TATCTTGCCAATCTATTCAATTATTTGGTAAACTTTCATAGTAATTCCGA
        <L  V  T  L  Y  T  L  L  G  N  S  L  I  M  L  A
        <_____ORF RF[4] C_____


            1710      1720      1730      1740      1750
```

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T●●ment of Caries
Inventor Name: Dennis Cvitkovitch et al.
Application No.: 09/833,017, Filing Date: April 10, 2001
Attorney Docket No. 1889-00401

Figure 9E

```
           TCATTCATTTTGCTCTCCTTTGATCAGCAATCACAGCTCTCAGTTTTGTT
           AGTAAGTAAAACGAGAGGAAACTAGTCGTTAGTGTCGAGAGTCAAAACAA
           <E  N  M
           <_____
                    <K  A  R  R  Q  D  A  I  V  A  R  L  K  T
                    <_____ORF RF[5] C_____


              1760       1770       1780       1790       1800
           AACTTAGTTCGTGAAATAAGACAAGACTTATTATTTCGAAAATAGGCCAA
           TTGAATCAAGCACTTTATTCTGTTCTGAATAATAAAGCTTTTATCCGGTT
           <L  K  T  R  S  I  L  C  S  K  N  N  R  F  Y  A  L
           <_____ORF RF[5] C_____


              1810       1820       1830       1840       1850
           GCGTTTTTTCCGATCAATACGGGTAATATTGGCAGGATTGACAATAAAAG
           CGCAAAAAAGGCTAGTTATGCCCATTATAACCGTCCTAACTGTTATTTTC
           <R  K  K  R  D  I  R  T  I  N  A  P  N  V  I  F  S
           <_____ORF RF[5] C_____


              1860       1870       1880       1890       1900
           AGCGATGGCACTGAAAAAGTCTCTTATCCATTTTAACAATGTCAGTCATA
           TCGCTACCGTGACTTTTTCAGAGAATAGGTAAAATTGTTACAGTCAGTAT
                 M  A  L  K  K  S  L  I  H  F  N  N  V  S  H>
           _____ORF RF[1] _____>
              <R  H  C  Q  F  L  R  K  D  M  K  V  I  D  T  M
           <_____ORF RF[5] C_____
                                                        <V
                                                        <__


              1910       1920       1930       1940       1950
           CTGCCGTAGAATTCAATCCGTTCATCATAAGTATAAAGGCAGAGCTTATG
           GACGGCATCTTAAGTTAGGCAAGTAGTATTCATATTTCCGTCTCGAATAC
           T  A  V  E  F  N  P  F  I  I  S  I  K  A  E  L  M>
           _____ORF RF[1] _____>
           <S  G  Y  F  E  I  R  E  D  Y  T  Y  L  C  L  K  H
           <_____ORF RF[5] C_____
              <A  T  S  N  L  G  N  M  M  L  I  F  A  S  S  I
           <_____ORF RF[6] C_____


              1960       1970       1980       1990       2000
           GGCTGTTGAAGATGTTTCAAAATACAGAATCTCAGCAAAAGGGACCTGAA
           CCGACAACTTCTACAAAGTTTTATGTCTTAGAGTCGTTTTCCCTGGACTT
              G  C>
           _____>
           <A ·T  S  S  T  E  F  Y  L  I  E  A  F  P  V  Q  F
           <_____ORF RF[5] C_____
           <P  Q  Q  L  H  K  L  I  C  F  R  L  L  L  S  R  F
           <_____ORF RF[6] C_____


              2010       2020       2030       2040       2050
           ACTGAGTTTCAGATGAATGGAAAATAAAAAGTTCCTCTGATTGACCATTC
           TGACTCAAAGTCTACTTACCTTTTATTTTTCAAGGAGACTAACTGGTAAG
             <Q  T  E  S  S  H  F  I  F  L  E  E  S  Q  G  N
           <_____ORF RF[5] C_____
           <S  L  K  L  H  I  S  F  L  F  N  R  Q  N  V  M  R
           <_____ORF RF[6] C_____
```

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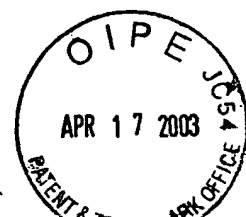
Figure 9F

```
          2060      2070      2080      2090      2100
TTCTGGCTGTTTTCCATAGCATAATACAGCGCTGATTCAATGCGGTGGGA
AAGACCGACAAAAGGTATCGTATTATGTCGCGACTAAGTTACGCCACCCT
<K  Q  S  N  E  M  A  Y  Y  L  A  S  E  I  R  H  S
<_____ORF RF[5] C_____
  <R  A  T  K  W  L  M
<_____ORF RF[6] C_____
```

```
          2110      2120      2130      2140      2150
GAACTCCTCAGGATTCAAAGATTTATCAATAAAATCCAAAGCAGATACCT
CTTGAGGAGTCCTAAGTTTCTAAATAGTTATTTTAGGTTTCGTCTATGGA
<F  E  E  P  N  L  S  K  D  I  F  D  L  A  S  V  Q
<_____ORF RF[5] C_____
```

```
          2160      2170      2180      2190      2200
GATACTGAAAAGTGAGGGGCATAAACTCAGAATGTGTCGTGACAAAGACA
CTATGACTTTTCACTCCCCGTATTTGAGTCTTACACAGCACTGTTTCTGT
                              M  C  R  D  K  D>
                            _____
                                                     >
  <Y  Q  F  T  L  P  M  F  E  S  H  T  T  V  F  V
<_____ORF RF[5] C_____
```

```
          2210      2220      2230      2240      2250
ATAACTGCACTAGGATTATGCTGTCTAATCTGATTGGCTACTTCCAGTCC
TATTGACGTGATCCTAATACGACAGATTAGACTAACCGATGAAGGTCAGG
N  N  C  T  R  I  M  L  S  N  L  I  G  Y  F  Q  S>
_____
                                                  >
<I  V  A  S  P  N  H  Q  R  I  Q  N  A  V  E  L  G
<_____ORF RF[5] C_____
```

```
          2260      2270      2280      2290      2300
TTTCTTTTCCTCTTTTTTGATTTCAATATCCAAAAAGAAAATCTGGTGAT
AAAGAAAAGGAGAAAAAACTAAAGTTATAGGTTTTTCTTTTAGACCACTA
 F  L  F  L  F  F  D  F  N  I  Q  K  E  N  L  V  I>
_____
                                                  >
<K  K  E  E  K  K  I  E  I  D  L  F  F  I  Q  H  N
<_____ORF RF[5] C_____
```

```
          2310      2320      2330      2340      2350
TGCCCTTTTCAGGGATAGCGTCAATAAGTTGTTGTGGTTTTCCAAAAATA
ACGGGAAAAGTCCCTATCGCAGTTATTCAACAACACCAAAAGGTTTTTAT
  A  L  F  R  D  S  V  N  K  L  L  W  F  S  K  N>
_____
                                                  >
 <G  K  E  P  I  A  D  I  L  Q  Q  P  K  G  F  I
<_____ORF RF[5] C_____
```

```
          2360      2370      2380      2390      2400
GTCAATTCTTTATAAGACCAATTTTTTTCTTTCATGATAGCTGCAATGGT
CAGTTAAGAAATATTCTGGTTAAAAAAAGAAAGTACTATCGACGTTACCA
S  Q  F  F  I  R  P  I  F  F  F  H  D  S  C  N  G>
_____
                                                  >
                              M  I  A  A  M  V>
                            _____
                                                     >
<T  L  E  K  Y  S  W  N  K  E  K  M  I  A  A  I  T
<_____ORF RF[5] C_____
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          2410      2420      2430      2440      2450
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Attorney Docket No. 1889-00401
Applicants: Dennis Cvitkovitch et al.
Application No.: 09/833,017, Filing Date: April 10, 2001
Title: Signal Peptides, Nucleic Acid Molecules and Methods for
Treatment of Caries
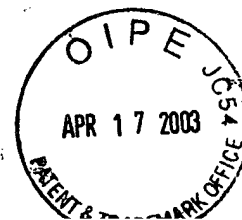
Figure 9G

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GGTTTCAAGACGTCCTTGTTGTAAAAAATCATCTTCCAATACAAAAATAG
CCAAAGTTCTGCAGGAACAACATTTTTTAGTAGAAGGTTATGTTTTTATC
  G   F   K   T   S   L   L>
  _____>
    V   S   R   R   P   C   C   K   K   S   S   S   N   T   K   I>
    _____>
    <T   E   L   R   G   Q   Q   L   F   D   D   E   L   V   F   I   S
----<_____ORF RF[5] C_____


        2460        2470        2480        2490        2500
AAATCATTATTTCTCCTTTAATCTTCTATTTAGGTTAGCTGATTAACACT
TTTAGTAATAAAGAGGAAATTAGAAGATAAATCCAATCGACTAATTGTGA
  E   I   I   I   S   P   L   I   F   Y   L   G>
  _____>
    <I   M
    <_____


        2510        2520        2530        2540        2550
ATACACAGAAAAGGTATAAAACGATATCACTCAATAAAATCTACTAACTT
TATGTGTCTTTTCCATATTTTGCTATAGTGAGTTATTTTAGATGATTGAA

AATAACC
TTATTGG
```

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T⬤ment of Caries
Inventor Name: Dennis Cvitkovitch et al.
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Figure 11A.

ATGAAACAAGTTATTTATGTTGTTTTAATCGTCATAGCCGTTAACATTCTCTTAGAGATT
ATCAAAAGAGTAACAAAAAGGGGAGGGACAGTTTCGTCATCTAATCCTTTACCAGATGGG
CAGTCTAAGTTGTTTTGGCGCAGACATTATAAGCTAGTACCTCAGATTGATACCAGAGAC
TGTGGGCCGGCAGTGCTGGCATCTGTTGCAAAGCATTACGGATCTAATTACTCTATCGCT
TATCTGCGGGAACTCTCAAAGACTAACAAGCAGGGAACAACAGCTCTTGGCATTGTTGAA
GCTGCTAAAAAGTTAGGCTTTGAAACACGCTCTATCAAGGCGGATATGACGCTTTTTGAT
TATAATGATTTGACCTATCCTTTTATCGTCCATGTGATTAAAGGAAAACGTCTGCAGCAT
TATTATGTCGTCTATGGCAGCCAGAATAATCAGCTGATTATTGGAGATCCTGATCCTTCA
GTTAAGGTGACTAGGATGAGTAAGGAACGCTTTCAATCAGAGTGGACAGGCCTTGCAATT
TTCCTAGCTCCTCAGCCTAACTATAAGCCTCATAAAGGTGAAAAAAATGGTTTGTCTAAT
TTCTTCCCGTTGATCTTTAAGCAGAAAGCTTTGATGACTTATATTATCATAGCTAGCTTG
ATTGTGACGCTCATTGATATTGTCGGATCATACTATCTCCAAGGAATATTGGACGAGTAC
ATTCCTGATCAGCTGATTTCAACTTTAGGAATGATTACGATTGGTCTGATAATAACCTAT
ATTATCCAGCAGGTCATGGCTTTTGCAAAAGAATACCTCTTGGCCGTACTCAGTTTGCGT
TTAGTCATTGATGTTATCCTGTCTTATATCAAACATATTTTTACGCTTCCTATGTCTTTC
TTTGCGACAAGGCGAACAGGAGAAATCACGTCTCGTTTTACAGATGCCAATCAGATTATT
GATGCTGTAGCGTCAACCATCTTTTCAATCTTTTTAGATATGACTATGGTAATTTTGGTT
GGTGGGGTTTTGTTGGCGCAAAACAATAACCTTTTCTTTCTAACCTTGCTCTCCATTCCG
ATTTATGCCATCATTATTTTTGCTTTCTTGAAACCCTTTGAGAAAATGAATCACGAAGTG
ATGGAAAGCAATGCTGTGGTAAGTTCTTCTATCATTGAAGATATCAATGGGATGGAAACC
ATTAAATCACTCACAAGTGAGTCCGCTCGTTATCAAAACATTGATAGTGAATTTGTTGAT
TATTTGGAGAAAAACTTTAAGCTACACAAGTATAGTGCCATTCAAACCGCATTAAAAAGC
GGTGCTAAGCTTATCCTCAATGTTGTCATTCTCTGGTATGGCTCTCGTCTAGTTATGGAT
AATAAAATCTCAGTTGGTCAGCTTATCACCTTTAATGCTTTGCTGTCTTATTTCTCAAAT
CCAATTGAAAATATTATCAATCTGCAATCCAAACTGCAGTCAGCTCGCGTTGCCAATACA
CGTCTTAATGAGGTCTATCTTGTCGAATCTGAATTTGAAAAGACGGCGATTTATCAGAA
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CGAGATACCTTATCAGATATTAATTTATCAATCAAAAAAGGCTCCAAGGTCAGTCTAGTT
GGAGCCAGTGGTTCTGGTAAAACAACTTTGGCTAAACTGATTGTCAATTTCTACGAGCCT
AACAAGGGGATTGTTCGAATCAATGGCAATGATTTAAAAGTTATTGATAAGACAGCTTTG
CGGCGGCATATTAGCTATTTGCCGCAACAGGCCTATGTTTTTAGTGGCTCTATTATGGAT
AATCTCGTTTTAGGAGCTAAAGAAGGAACGAGTCAGGAAGACATTATTCGTGCTTGTGAA
ATTGCTGAAATCCGCTCGGACATTGAACAAATGCCTCAGGGCTATCAGACAGAGTTATCA
GATGGTGCCGGTATTTCTGGCGGTCAAAAACAGCGGATTGCTTTAGCTAGGGCCTTATTA
ACACAGGCACCGGTTTTTGATTCTGGATGAAGCCACCAGCAGTCTTGATATTTTGACAGAA
AAGAAAATTATCAGCAATCTCTTACAGATGACGGAGAAAACAATAATTTTTGTTGCCCAC
CGCTTAAGCATTTCACAGCGTACTGACGAAGTCATTGTCATGGATCAGGGAAAAATTGTT
GAACAAGGCACTCATAAGGAACTTTTAGCTAAGCAAGGTTTCTATTATAACCTGTTTAAT

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Figure 11B.
MKQVIYVVLIVIAVNILLEIIKRVTKRGGTVSSSNPLPDGQSKLFWRRHYKLVPQIDTRD
CGPAVLASVAKHYGSNYSIAYLRELSKTNKQGTTALGIVEAAKKLGFETRSIKADMTLFD
YNDLTYPFIVHVIKGKRLQHYYVVYGSQNNQLIIGDPDPSVKVTRMSKERFQSEWTGLAI
FLAPQPNYKPHKGEKNGLSNFFPLIFKQKALMTYIIIASLIVTLIDIVGSYYLQGILDEY
IPDQLISTLGMITIGLIITYIIQQVMAFAKEYLLAVLSLRLVIDVILSYIKHIFTLPMSF
FATRRTGEITSRFTDANQIIDAVASTIFSIFLDMTMVILVGGVLLAQNNNLFFLTLLSIP
IYAIIIFAFLKPFEKMNHEVMESNAVVSSSIIEDINGMETIKSLTSESARYQNIDSEFVD
YLEKNFKLHKYSAIQTALKSGAKLILNVVILWYGSRLVMDNKISVGQLITFNALLSYFSN
PIENIINLQSKLQSARVANTRLNEVYLVESEFEKDGDLSENSFLDGDISFENLSYKYGFG
RDTLSDINLSIKKGSKVSLVGASGSGKTTLAKLIVNFYEPNKGIVRINGNDLKVIDKTAL
RRHISYLPQQAYVFSGSIMDNLVLGAKEGTSQEDIIRACEIAEIRSDIEQMPQGYQTELS
DGAGISGGQKQRIALARALLTQAPVLILDEATSSLDILTEKKIISNLLQMTEKTIIFVAH
RLSISQRTDEVIVMDQGKIVEQGTHKELLAKQGFYYNLFN

Figure 11C.
ATGGATCCTAAATTTTTACAAAGTGCAGAATTTTATAGGAGACGCTATCATAATTTTGCG
ACACTATTAATTGTTCCTTTGGTCTGCTTGATTATCTTCTTGGTCATATTCCTTTGTTTT
GCTAAAAAAGAAATTACAGTGATTTCTACTGGTGAAGTTGCACCAACAAAGGTTGTAGAT
GTTATCCAATCTTACAGTGACAGTTCAATCATTAAAAATAATTTAGATAATAATGCAGCT
GTTGAGAAGGGAGACGTTTTAATTGAATATTCAGAAAATGCCAGTCCAAACCGTCAGACT
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CAAAAGAGCAAGAAAAAGAAGAAGTCTAAGAGCAAGAAAGCTTCCAAAGATAAGAAAAAG
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TTTGCTTCAGAAGATGGTATTATTCATACCAATCCCAAATATGATGGTGCCAATATTATT
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CTTTCCTTGGAAAAAAAGGGAAATGACAAGGTTGTTATTGAAGGAAAAATTAACAATGTC
GCTTCATCAGCAACTACTACTAAAAAAGGAAATCTCTTTAAGGTTACTGCCAAAGTAAAG
GTTTCTAAGAAAAATAGCAAACTCATCAAGTATGGTATGACAGGCAAGACAGTCACTGTC
ATTGATAAAAGACTTATTTTGATTATTTCAAAGATAAATTACTGCATAAAATGGATAAT

Figure 11D.
MDPKFLQSAEFYRRRYHNFATLLIVPLVCLIIFLVIFLCFAKKEITVISTGEVAPTKVVD
VIQSYSDSSIIKNNLDNNAAVEKGDVLIEYSENASPNRQTEQKNIIKERQKREEKEKKKH
QKSKKKKKSKSKKASKDKKKKSKDKESSSDDENETKKVSIFASEDGIIHTNPKYDGANII
PKQTEIAQIYPDIQKTRKVLITYYASSDDVVSMKKGQTARLSLEKKGNDKVVIEGKINNV
ASSATTTKKGNLFKVTAKVKVSKKNSKLIKYGMTGKTVTVIDKKTYFDYFKDKLLHKMDN